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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,139	11/19/2001	Minoru Takizawa	216234US0	8192 7
22850	7590	10/03/2003	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHANEY, CAROL DIANE	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/988,139

Applicant(s)

TAKIZAWA ET AL.

Examiner

Carol Chaney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-9, drawn to a solidifying material, classified in class 525, subclass 314.
- II. Claims 10-17, drawn to film or sheet of a polymer which is a solidifying material with an additional support layer, classified in class 429, subclass 144.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions contain different components; the first invention does not require the support layer required by the second invention.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Rohitha Jayasuriya on 22 September 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Giles et al., US Patent 5,196,484.

Giles et al. disclose A-B-A triblock copolymers where the A-block material is a polymer selected from polymers having a glass transition, softening or melting temperature above 70.degree. C., and in which the B-block material is an elastomeric or amorphous polymer which incorporates attached side chains which may be oxyalkane sequences containing 2 to 6 carbon atoms between neighboring oxygen atoms. (See column 1, line 66-column 2, line 12.)

A preferred A-B-A copolymer is polystyrene-poly(cis-1,4-butadiene)-polystyrene ("PS-PBD-PS"). (Column 8, lines 34-42.) With regards to claim 5, the B-block polymer main chain may have a variety of structures including those derived from a cis-1,4-polybutadiene chain onto which polyoxyalkane sequences are grafted. (Column 6, lines 11-15.) Thus, Giles et al. disclose grafted copolymers. A preferred average molar mass for A-block polystyrene segments is about 10,000 to 40,000 and for B-block segments about 40,000 up to about 150,000, typically about 100,000. (Column 10, lines 42-49.)

With regards to claims 3 and 7, the ABA polymer disclosed by Giles et al. is blended with either polyethylene glycol dimethyl ether or polystyrene. (Column 17, Example 7.)

With regards to claims 4 and 8, the polymers disclosed by Giles are formed into films between 100 and 300 microns, or 0.1 to 0.3 mm thick. With regards to claim 9, electrochemical cells using these films are constructed. (Column 16, lines 17-26.)

It is noted that Giles et al. refer to their inventive material as a "solid electrolyte" rather than a "solidifying material". However, since the materials described by the prior art and the instant invention are essentially identical, the manner in which the materials are described is not considered relevant to patentability. The Court of Customs and Patent Appeals has long recognized that an invention may be described in different ways and still be the same invention. See *Kennecott Corp. v. Kyocera International, Inc.* 5 USPQ2d 1194 (CFAC 12-22-87) and *In re Kirscher*, 134 USPQ 324 (CCPA 1962).

Claims 1 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Jannasch et al., US Patent 6,465,126.

Jannasch et al. disclose a battery electrolyte material which comprises a modified block copolymer having ion conducting polymer segments and adhesive polymer segments. As shown in Figures 2c and 2d, the block copolymer includes polystyrene segments which are non-compatible with the electrolyte solution, and

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polybutadiene segments having poly(ethylene oxide) bonded to the segments. These segments are the "B" components of the polymer.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nakamura et al., US Patent 6,387,570 discloses gel electrolytes for lithium batteries. The electrolytes contain block copolymers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (703) 305-3777. The examiner can normally be reached on Mon - Fri 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Carol Chaney  
Primary Examiner  
Art Unit 1745

cc